Clean Set of Claims, As Amended

For the Convenience of Steve Grant

I claim:

1. An apparatus for the cutting of sheets of metal material, said apparatus comprising:
a first transfer carriage for supporting material to be cut;
a cutting head; and
a pathway along which to move the transfer carriage;
said cutting head and said transfer carriage being movable relative to each other to permit said cutting head to cut profiles of objects lying in a plane;
said carriage being movable between a loading position clear of said cutting head, and a cutting position in which said carriage presents the material to be cut to said cutting head; and
said path including a portion along which said carriage can by-pass said cutting head.

2. The apparatus of claim 1 wherein relative motion of said transfer carriage and said cutting head is automatically controlled.

3. The apparatus of claim 1 wherein said cutting head includes a cutting member chosen from the set of cutting members consisting of (a) a cutting torch; and (b) a plasma arc.

4. The apparatus of claim 3, and further comprising a venting system operable to convey fumes from operation of said cutting member away from said apparatus.

5. The apparatus of claim 4 wherein said venting system is a vacuum system operable to draw fumes from below said cutting head.

6. The apparatus of claim 1 wherein at least said cutting head and a portion of said path adjacent to said cutting head are mounted within a sheltering structure.

7. The apparatus of claim 1 wherein at least a portion of said path is over-spanned by a movable crane, said crane being operable to engage pieces of the sheet material.

8. The apparatus of claim 1 wherein said path has the form of a continuous circuit.

9. The apparatus of claim 8 wherein said path includes alternate branches by which more than one carriage can be conducted to a position for interaction with said cutting head.

10. The apparatus of claim 8 wherein said apparatus has more than one cutting head operable to cut profiles in material transported by said carriage.

11. The apparatus of claim 8 wherein said path includes alternate branches, said apparatus includes more than one carriage and more than one cutting head, and said carriages can be directed to said alternate branches for engagement by more than one cutting head at a time.

12. (Amended) The apparatus of claim 8 wherein:

[said carriage is a first carriage, and] said apparatus includes at least a second transfer carriage; and

said first transfer carriage is movable to said loading position while said second transfer carriage is in said cutting position.

13. (Amended) The apparatus of claim 8, wherein:

[said carriage is a first carriage;]

said apparatus includes at least a second transfer carriage; and

said path includes an unloading position clear of said cutting position.

14. (Amended) The apparatus of claim 13 wherein said first transfer carriage is movable to said unloading position while said second transfer carriage is in said cutting position.

15. The apparatus of claim 14 wherein said unloading position is mounted within a sheltering structure.

16. (Amended) The apparatus of claim 13 wherein said first transfer carriage is movable between said unloading and loading positions while said [first] second transfer carriage is in said cutting position.

17. The apparatus of claim 1 wherein said apparatus includes a first drive [train] operable to move said carriage along a first axis relative to said cutting head in said cutting position.

18. The apparatus of claim 17 wherein said apparatus includes a second drive [train] operable to return said carriage to said loading position.

19. Withdrawn by Examiner.

20. Withdrawn by Examiner .

21. (Examiner Proposes to Withdraw) A plasma arc cutting process for cutting steel sheet said process comprising the steps of:

placing a sheet of steel to be cut on a movable carriage; moving the carriage to a cutting position; operating a plasma arc cutting tool to cut a part profile in said sheet; and moving said carriage away from the cutting tool.

22. (Examiner Proposes to Withdraw) The process of claim 21 wherein said step of moving said carriage away from the cutting tool is followed by the step of moving another carriage into the cutting position, and cutting material placed on that other carriage.

23. (Examiner Proposes to Withdraw) The process of claim 21 wherein the step of moving said carriage away from said cutting position is followed by the step of unloading said carriage while another carriage is being cut by said cutting tool.

24. (Examiner Proposes to Withdraw) The process of claim 23 wherein the step of unloading said carriage occurs while a third carriage is being prepared for movement to the cutting position.

25. (Examiner Proposes to Withdraw) The process of claim 22 wherein said process includes repetitively moving the carriages through a cycle of steps of loading, cutting, and unloading.

26. (Examiner Proposes to Withdraw) The process of claim 22 wherein said process includes moving the carriages along a circuit, the circuit including at least said cutting position and a loading position.

27. A plasma arc cutting apparatus including:

a plasma arc cutting head [,];

a movable bed for supporting a planar workpiece;

a path defining a circuit about which said movable bed can move;

said movable bed being movable to a cutting position in which said cutting head is operable to cut the workpiece;

said head being mounted to move in two directions relative to the movable bed to [permits] permit said cutting head to cut profiles in a [stationary] planar workpiece carried on said bed; and

[a movable bed for supporting a planar workpiece;]

[the movable bed being movable to a cutting position in which said cutting head is operable to cut the work piece; and]

the movable bed being operable to transport the workpiece away from the cutting head when cutting of the workpiece has ceased.

28. The apparatus of claim 27 wherein said apparatus includes a plurality of movable beds, a first of said movable beds being movable to occupy said cutting position after a second of said movable beds has been moved away from said cutting position.

29. (Amended) The apparatus of claim [27] 28 wherein said movable beds are constrained to move [in a] along said circuit between said cutting position and a loading position.